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PRICE ONE CENT

SOCIETY OF ARTS HEARS TALK ON GYROSCOPES

Mr. Elmer A. Sperry Gives A Most Interesting And Prac- tical Discourse

Last evening the Society of Arts was addressed by Mr. Elmer A. Sperry of New York, on the topic "Gyroscopes." The lecture was well attended and proved to be one of the most interesting as well as one of the most instructive discourses given before the Society this year. Mr. Sperry did not treat his subject from a mathematical standpoint but rather from the practical standpoint and he illustrated all important principles of which he spoke with models.

The gyroscopic phenomenon is really a simple one and one that is readily understood if the subject is carefully approached. To begin with, the earth's action is gyroscopic, and the phenomenon is a quite natural one. The gyroscopic action is caused by revolving or rotating a disk about some axis. When one attempts to displace the rotating disk from its original position, a reaction takes place in a plane normal to the force which is causing the displacement of the disk.

Last summer Mr. Sperry investigated many of the actions of gyroscopes in general and besides interviewed practically all of the noted men who are experimenting with gyroscopes. However, many men whom he met showed a great lack of understanding of the fundamental principles of gyroscopic action. One Englishman wrote that gyroscopic phenomena were a network of negations from the natural. Another said that it worked at cross-purposes, and there were many similar erroneous views shown to be held by men who ought to have known better.

Many uses for gyroscopes have been thought of, but probably the most important ones are its use in monorail trains and for steadying ships and aeroplanes. The action of the boomerang and of the wheels on trains has lately been shown to be largely gyroscopic in its nature and for this reason the outer rail on railroad curves must be raised higher than it would need to be for simple centrifugal forces. Another practical and natural gyroscopic action is the one used by a cat, which always lands on its feet. This is easily explained because the cat has an inborn desire to draw in its feet in a certain manner when it is falling and this action causes the cat to land in an upright position. This can partially be shown experimentally by placing a boy on a chair which is free to revolve about an axis which is perpendicular to the seat of the chair. Then if the boy holds a weight in one of his hands, extends his arm full length sidewise and then quickly toward him, the chair will revolve to either one or the other sides according to which arm he is using.

The engineering significance and enormous power of gyroscopes was first noticed on one of our torpedo boats during target work. The torpedo used was one whose ring made some 16,000 revolutions. Before bringing the ring up to this velocity, the torpedo was sighted on the target and when the ring reached its maximum velocity it was noticed that the ship had swung through quite an angle. The officer ordered the men to again aim the torpedo, but in endeavoring to do so it was seen that when they moved the torpedo, the ship swung through another angle. Thus they really moved the ship around in endeavoring to move the torpedo.

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PROF. TALBOT GIVES DINNER TO CHEMISTS

Excellent Speakers Address 57 Men Gathered In The Union

What's the matter with Talbot.

He's alright!
He's so good to me and you
He will see that we get through!
What's the matter with Talbot?
He's alright!

So sang the chemists and chemical engineers who enjoyed Dr. Talbot's hospitality at the Union last night. "Enjoyed" is the proper word, because not only was the dinner served most excellent, but the speakers of the evening were of equal excellence, and over all that peculiar family spirit, so characteristic of the Chemistry Department, reigned.

Cards were distributed to the men, on which they wrote their names, the kind of work they preferred, the locality they preferred, and their permanent address. Prof. Talbot explained that in reference to obtaining positions, it was not only the registrar's records counted, but quite as much the general impression which the man had made during his connection with the department. Dr. Talbot assured the men that there were plenty of chances for chemists and engineers, and that no man need be discouraged if he did not get a \$10,000 job immediately. He explained that the Institute was glad to help men into positions, but that likewise the men owed the Institute certain obligations. It is the duty of a student to let the department know just as soon as he is placed in a position, whether permanent or not.

The young men entering the profession also owe a duty to his professional societies. Membership in these keeps him supplied with the latest literature, but it also helps to advance the science in which he is engaged.

Dr. Talbot made an important point of the fact that loyalty is a rather rare virtue in these days. He said, "Be loyal to yourself and to your employer. Make up your mind to always earn more than your pay. The best thing you can ask for is the chance to do the best there is in you and an employer who appreciates good work."

Prof. Prescott followed Dr. Talbot. He spoke of the openings in chemical biology, in water and sewage work, in milk work, and in public service in

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STORY OF INQUISITION

The Catholic Club convened last evening to listen to an explanation of the Inquisition by Rev. J. M. Patterson, professor at Brighton Seminary. At the beginning of the thirteenth century, Catholicism was universal. At this time, however, a band of Orientals, clinging to a different philosophy, settled in southern France and brought upon themselves the disfavor of the entire country. They were regarded as virulent anarchists are today. To exterminate this new religion, persuasion and oratory were found ineffective and physical force was resorted to "to prevent spiritual suicide." The state took up the work and, in its courts, resorted to torture and confiscation of property in order to insure the desired testimony of the witnesses.

After Rev. Patterson's lecture, arrangements for the coming dance were completed. The dance is to be held April 4 in Copley Hall.

SOPHOMORE MINERS ENTERTAINED LAST NIGHT

Prof. Richards Gives Exhibition Of Glass-Blowing After Supper

Thirty of the sophomore miners had reason to congratulate themselves on their choice of course last night at the occasion of the reception and supper given them by Professor Richards and his wife. From the time the door closed behind the first comer until the last man had left there was "something doing" all the time.

After the preliminary greetings and introductions the fellows examined the extensive collections of minerals and curios or tried their skill on the puzzles which they found in the parlor.

Soon supper was served and between conversation a most excellent and bountiful meal was enjoyed. Second plates of ice cream were the rule rather than the exception.

After supper the company was treated to an exhibition of Prof. Richards' skill in glass-blowing and if there was any one thing more than another which could be picked out as "the most interesting," it was this.

The host began by blowing a small bulb in a piece of small glass-tubing. When the glass had assumed the shape of a perfect sphere, he directed the blast lamp flame against the bottom, twirling it rapidly the while, then blew gently and he showed the fellows a little flat-bottomed flask. After annealing this by heating in the flame and allowing it to cool he made two more of larger size.

These having come out successfully Prof. Richards then announced that he would make a water-hammer. He started by blowing a rather large bulb with a long neck the end of which he drew to a fine tube. Next he partially filled this with water by heating it and allowing it to cool with the small open end dipped in water. Then he boiled this water thereby expelling the air and again allowing it to cool under water. This time the high vacuum produced by the condensation of the steam liberated the dissolved air in the water making a beautiful froth in the ascending column of water. When the bulb was filled with water he allowed it to boil for seven minutes in order to drive out all air before sealing it. The result was in doubt until the water had partially cooled when the distinct clink could be heard on turning it upside down. This noise is due to the fact that there is no air cushion between the water and the glass when they meet.

While waiting for the water to boil in the water-hammer Prof. Richards "blew some bubbles." Not the soap-and-water kind but glass bubbles, almost as thin and no less beautiful. First he formed a little knob at the end of the tube to feed the bubble, then softened the glass near the end and blew. A great sausage shaped bubble coiled and twisted in the air, finally collapsing with a sharp report. When these bubbles explode just right the thin film of glass splits into long flexible ribbons.

After the exhibition the crowd drew letters for the results of the glass-blowing. H. O. Maxwell got the smallest flash while the second was secured by S. R. Robertson. "Robbie" gallantly gave his prize to Mrs. Burton. Goodwin got the water-hammer.

Several members of the faculty and instructing staff were present with their wives and helped Prof. and Mrs. Richards in making the evening a grand success.

It was good to be a second-year Course III. man last night.

CHRIST THE TRUEST EXPRESSION OF GOD

Dr. A. P. Fitch Discusses Clause Of T. C. A. Mem- bership Pledge

The fact that the T. C. A. is daily gaining in both membership and influence was well demonstrated last night at their meeting. More were there than have attended before, except at the membership meeting, and it was even necessary to place a number of extra plates at the table. During the dinner an innovation was introduced by Mr. Mason who sat down at the piano and started in on the "Stein Song." This was followed by others between the courses, and helped to enliven things and make the meeting more enjoyable.

After the dinner, Mr. Mason introduced as the speaker, D. A. P. Fitch of Cambridge. Dr. Fitch discussed the second clause of the membership pledge, "Finding in Jesus Christ the truest expression of God's will and character." He limited his speech to a very few minutes, but he fully covered the subject, and clearly explained his opinion of Christ's purpose and life.

He said in part that although our thoughts of God's greatness, power, and mercy have come to us in hundreds of ways, yet these are traceable to Jesus himself as the originator. Jesus expresses by his life not the power of God, but His love and helpfulness to all human creatures. He shows the sympathetic side of God. Although Christ's life is the ideal that we look up to, yet it is impossible that any of us shall ever attain it because we can never be quite sinless. Jesus is the true expression of God.

Our ideas of God are all expressed by him, and here we get no further because we can never know from where Jesus obtained his ideas and expression.

Dr. Fitch concluded his remarks by answering a few questions relating to his talk. Dr. Fitch is a strong and forceful speaker, and all those who were present certainly derived many good thoughts from his short but impressive talk.

At the meeting next week Dean Burton will talk, and it is expected that every one will attend if possible.

COLLEGE ATHLETIC NOTES.

If everything goes well with Sam Felton, the Harvard freshman pitcher, the Crimson should have a dependable twirler for the next three years.

The accident to Steve Philbin, Yale's baseball captain, is regretted by all collegians, as it undoubtedly robs him of a chance of going out of college in June with one of the greatest records ever made by an Eli.

The fencers of the naval and army academies proved that they were again superior to the collegians. There is one consolation, however, for the college men; the individual champion hailed from Pennsylvania.

CALENDAR.

Thursday, March 31.

4.00—Cross-country Practice. Field.
4.15—1910 Class Day Marshalls Ballots due.

Friday, April 1.

2.30—1913 Baseball vs. E. H. S. Tech Field.

Saturday, April 2.

Inter Course Cross Country Race.